

REMARKS

Summary of the Office Action

Claims 5-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,257,771 to Okayasu in view of U.S. Patent No. 5,253,310 to Delbare et al. ("Delbare") or U.S. Patent Application Publication No. 2003-0053770 to Noddings et al. ("Noddings").

Summary of the Response to the Office Action

Claims 1-9 are pending, of which claims 1-4 are withdrawn from consideration. Claims 5-9 are respectfully submitted for reconsideration.

Applicants request that the Examiner acknowledge receipt of the certified copy of Korean Priority Patent Application No. 2003-80603, submitted to the U.S. Patent and Trademark Office on March 2, 2004.

All Claims Define Allowable Subject Matter

Claims 5-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Okayasu in view of Delbare or Noddings. Applicants respectfully traverse the rejection under 35 U.S.C. § 103(a). Claim 5 recites a method of producing a printed circuit board, including curing an epoxy resin having optical fibers embedded therein to produce a semicured prepreg, forming copper clads on both sides of the semicured prepreg, and pressing the semicured prepreg and copper

clads at a predetermined temperature and pressure. Support for these features is provided at, for example, page 11, line 23 – page 13, line 10, and Figs. 3E-6F, of Applicants' specification.

In contrast, Okayasu is directed to an optical connection between an electro-optical hybrid wiring mother board and an electro-optical hybrid wiring daughter board. As described at col. 4, ll. 15-34, and illustrated in Fig. 4 of Okayasu, a surface optical coupling 26 is provided in the major surface of the electro-optical hybrid wiring mother board 20-1. The surface optical coupling 26 is configured to establish an optical connection between the electro-optical hybrid wiring mother board 20-1 and the electro-optical hybrid wiring daughter board 20-2. The mother board 20-1 comprises an electrical wiring sheet 21, an insulating sheet 22 overlying the wiring sheet, an adhesive layer 23 overlying the insulating sheet, an optical fiber-embedded layer 25 formed on the adhesive layer, and a covering sheet 24 covering the optical fiber-embedded layer and having connection terminals disposed therein.

Applicants respectfully submit that Okayasu does not teach or suggest at least the features of forming copper clads on both sides of the semicured prepreg, and pressing the semicured prepreg and copper clads at a predetermined temperature and pressure, as recited in claim 5. Applicants submit that neither Delbare nor Noddings overcome the above-described deficiencies of Okayasu. It is noted that the cladding disclosed by Noddings is merely an outer coating of the waveguide material having an index of refraction that is less than the index of refraction of the waveguide material. (See paragraph 0056 and Fig. 1, steps 120 and 121, of Noddings). Claim 6 depends from claim 5 and recites the same combination of allowable features recited in claim 5,

as well as additional features that define over the prior art. Accordingly, it is requested that the rejection under 35 U.S.C. § 103(a), of claims 5 and 6, be withdrawn, and the claims allowed.

Claim 7 recites a method of producing a printed circuit board, including mounting fixing jigs having optical fibers on a copper clad, conducting a rolling process to coat the optical fibers with an epoxy resin, and semidrying the epoxy resin to form a semicured prepreg on the copper clad.

Claim 8 recites a method of producing a printed circuit board, including placing copper clads on upper and lower sides of a semicured prepreg, and pressing the semicured prepreg and copper clads at a predetermined temperature and pressure.

Claim 9 recites a method of producing a printed circuit board, including placing a copper clad on a first side of a waveguide layer, and pressing the waveguide layer and copper clad at a predetermined temperature and pressure.

It is respectfully submitted that neither Okayasu, Delbare, nor Noddings teach or suggest at least the features of a copper clad as recited in claims 7-9. Accordingly, it is requested that the rejection under 35 U.S.C. § 103(a), of claims 7-9, be withdrawn, and the claims allowed.

CONCLUSION

In view of the foregoing, Applicants respectfully request reconsideration and the timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicants' undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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